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NEWS 3 Jan 29 FSTA has been reloaded and moves to weekly updates
NEWS 4 Feb 01 DKILIT now produced by FIZ Karlsruhe and has a new update frequency
NEWS 5 Feb 19 Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS 6 Mar 08 Gene Names now available in BIOSIS
NEWS 7 Mar 22 TOXLIT no longer available
NEWS 8 Mar 22 TRCTHERMO no longer available
NEWS 9 Mar 28 US Provisional Priorities searched with P in CA/CAplus and USPATFULL
NEWS 10 Mar 28 LIPINSKI/CALC added for property searching in REGISTRY
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NEWS 12 Apr 08 "Ask CAS" for self-help around the clock
NEWS 13 Apr 09 BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 14 Apr 09 ZDB will be removed from STN
NEWS 15 Apr 19 US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 16 Apr 22 Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 17 Apr 22 BIOSIS Gene Names now available in TOXCENTER
NEWS 18 Apr 22 Federal Research in Progress (FEDRIP) now available

NEWS EXPRESS February 1 CURRENT WINDOWS VERSION IS V6.0d,
CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP),
AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002

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FILE 'HOME' ENTERED AT 15:37:57 ON 26 APR 2002

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SINCE FILE TOTAL
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FULL ESTIMATED COST

0.21

0.21

FILE 'AGRICOLA' ENTERED AT 15:38:09 ON 26 APR 2002

FILE 'CAPLUS' ENTERED AT 15:38:09 ON 26 APR 2002
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FILE 'BIOSIS' ENTERED AT 15:38:09 ON 26 APR 2002
COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC. (R)

=> s mel7 or mel 7
L1 35 MEL7 OR MEL 7

=> s l1 and (cdna or gene or promoter)
L2 21 L1 AND (CDNA OR GENE OR PROMOTER)

=> dup rem l2
PROCESSING COMPLETED FOR L2
L3 11 DUP REM L2 (10 DUPLICATES REMOVED)

=> d 1-11 ti

L3 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS
TI Melon promoters for expression of transgene in plants in a fruit-specific
and ripening-associated manner

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS
TI Characterization of two cDNA clones for mRNAs expressed during
ripening of melon fruits and their use for plant breeding

L3 ANSWER 3 OF 11 AGRICOLA DUPLICATE 1
TI Analysis of physiological and molecular changes in melon (*Cucumis melo* L.)
varieties with different rates of ripening.

L3 ANSWER 4 OF 11 AGRICOLA DUPLICATE 2
TI Characterization of two cDNA clones for mRNAs expressed during
ripening of melon (*Cucumis melo* L.) fruits.

L3 ANSWER 5 OF 11 AGRICOLA DUPLICATE 3
TI Identification of the alpha-galactosidase MEL genes in some populations of
Saccharomyces cerevisiae: a new gene MEL11.

L3 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2002 ACS DUPLICATE 4
TI Genetic mapping of the .alpha.-galactosidase MEL gene family on
right and left telomeres of *Saccharomyces cerevisiae*

L3 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2002 ACS
TI MEL gene polymorphism in the genus *Saccharomyces*

L3 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2002 ACS
TI Physical mapping of the MEL gene family in *Saccharomyces cerevisiae*

L3 ANSWER 9 OF 11 AGRICOLA DUPLICATE 5
TI Polymeric genes MEL8, MEL9 and MEL10--new members of alpha-galactosidase
gene family in *Saccharomyces cerevisiae*.

L3 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2002 ACS
TI Recombinant *Rhizobium meliloti* with improved nitrogen fixation capability

L3 ANSWER 11 OF 11 AGRICOLA DUPLICATE 6
TI A new family of polymorphic genes in *Saccharomyces cerevisiae*:

alpha-galactosidase genes MEL1-MEL7.

=> d 1 ab

L3 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS

AB The present invention is directed to melon promoters capable of promoting the expression of heterologous genes in transformed melon fruit. The invention also relates to genetic vector comprising melon fruit-assocd. promoters, transformation methods, transgenic plant cells and transgenic plants comprising such promoters. The activity of the melon-assocd. promoters was tested in ripe melon fruit tissues and heterologous fruit tissues. The expression of S-adenosylmethionine hydrolase under control of the melon-assocd. promoters and the prodn. of ethylene rate in transgenic plants was evaluated. The invention provides the methods for using the melon promoters to regulate transgene expression in a fruit-specific and ripening-assocd. manner.

=> d so

L3 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS

SO PCT Int. Appl., 68 pp.

CODEN: PIXXD2

=> d pi

L3 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2002 ACS

PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2001071013 A2 20010927 WO 2001-US8430 20010316

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

=> d 2 ab

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS

AB Clones designated MEL2 and MEL7 are cDNAs of genes which are expressed during ripening of melon (*Cucumis melo* L. cv. Cantaloupe charentais) fruit. Regulation of the expression of these genes by sense or antisense down regulation allows the ripening process to be controlled. Changes of the gene expression level in response to the ethylene treatment and wounding are also shown. Also claimed are the genetically modified plants having altered fruit ripening characteristics and the microbiol. method for the prepn. of the plants.

=> d 2 so

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS

SO PCT Int. Appl., 37 pp.

CODEN: PIXXD2

=> d 2 pi

L3 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2002 ACS
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 9737023 A1 19971009 WO 1997-GB824 19970324
 W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
 DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,
 RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN,
 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
 RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB,
 GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN,
 ML, MR, NE, SN, TD, TG

AU 9721674 A1 19971022 AU 1997-21674 19970324
 AU 711118 B2 19991007
 EP 895540 A1 19990210 EP 1997-914426 19970324
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO

JP 20000507445 T2 20000620 JP 1997-534719 19970324
 US 6107548 A 20000822 US 1998-142514 19980909

=> d 4 ab

L3 ANSWER 4 OF 11 AGRICOLA DUPLICATE 2
 AB In vitro translation of mRNAs and polyacrylamide gel electrophoresis of
 proteins from melons revealed that several mRNAs increased in amount
 during ripening, indicating the existence of other ripening genes in
 addition to those cloned previously. To identify ripening-related genes we
 have screened a ripe melon cDNA library and isolated two novel
 cDNA clones (MEL2 and MEL7) encoding unidentified
 proteins. Southern analysis revealed that MEL2 and MEL7 are
 encoded by low-copy-number genes. The MEL2 cDNA clone is near
 full-length, corresponds to a 1600 nucleotide mRNA that accumulates during
 ripening and encodes a predicted protein rich in hydrophobic amino acids.
 The MEL7 cDNA clone is full-length, corresponds to a
 mRNA of 0.7 kb which accumulates during early ripening stages and is also
 present at low levels in other organs of the melon plant. The MEL7
 predicted polypeptide is 17 kDa and shows significant homology with the
 major latex protein from opium-poppy. Wounding and ethylene treatment of
 unripe melon fruits 20 days after anthesis showed that MEL2 and
 MEL7 mRNAs are only induced by ethylene.

=> d 4 so

L3 ANSWER 4 OF 11 AGRICOLA DUPLICATE 2
 SO Plant molecular biology, Jan 1997. Vol. 33, No. 2. p. 313-322
 Publisher: Dordrecht : Kluwer Academic Publishers.
 CODEN: PMBIDB; ISSN: 0167-4412

=> s 11 and (melon or cantaloupe)
 L4 8 L1 AND (MELON OR CANTALOUPE)

=> dup rem 14
 PROCESSING COMPLETED FOR L4
 L5 4 DUP REM L4 (4 DUPLICATES REMOVED)

=> d 1-4 ti

L5 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2002 ACS
 TI Melon promoters for expression of transgene in plants in a
 fruit-specific and ripening-associated manner

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS
TI Characterization of two cDNA clones for mRNAs expressed during ripening of melon fruits and their use for plant breeding

L5 ANSWER 3 OF 4 AGRICOLA DUPLICATE 1
TI Analysis of physiological and molecular changes in melon (Cucumis melo L.) varieties with different rates of ripening.

L5 ANSWER 4 OF 4 AGRICOLA DUPLICATE 2
TI Characterization of two cDNA clones for mRNAs expressed during ripening of melon (Cucumis melo L.) fruits.

=> d 3 ab

L5 ANSWER 3 OF 4 AGRICOLA DUPLICATE 1
AB Seven melon varieties (Alpha, Delada, Marygold, Sirio, Topper, Tornado, and Viva) known to exhibit differences in their ripening behaviour were used in this study. The expression of mRNAs for ACC oxidase (MEL1) and phytoene synthase (MEL5), required for synthesis of ethylene and carotenoids, respectively, and two ripening-related cDNAs (MEL2 and MEL7), of unknown function, was examined and correlated with the development of colour and softening of fruits. The MEL2 and MEL7 mRNAs were present and accumulated in all varieties, indicating their importance in melon fruit ripening. The fruits of Delada and Marygold did not show any change in the colour of the flesh even at 50 daa (days after anthesis). All other varieties changed colour from green to orange between 25-30 daa. The phytoene synthase mRNA levels in most varieties seemed to be unrelated to change in fruit flesh colour. The firmness of all the fruits was reduced significantly between 25 and 40 daa. The expression of ACC oxidase mRNA showed the most variation among the different varieties and was delayed in Sirio and undetectable in Marygold fruits even at 40 daa. Varieties with delayed expression of ACC oxidase mRNAs after anthesis also showed delayed softening during ripening. The prospects of genetic engineering and breeding for melon fruits with improved quality characteristics and extended storage life are discussed.

=> d 3 so

L5 ANSWER 3 OF 4 AGRICOLA DUPLICATE 1
SO Journal of experimental botany, Mar 1997. Vol. 48, No. 308. p. 769-778
Publisher: Oxford : Oxford University Press.
CODEN: JEBOA6; ISSN: 0022-0957

=> s sam or sam-k
MISSING TERM BEFORE 'OR'
Search expressions cannot begin with operators.

=> s sam or sam-k
MISSING TERM BEFORE 'OR'
Search expressions cannot begin with operators.

=> s sam-k or sam
MISSING TERM AFTER SAM-K OR
Operators must be followed by a search term, L-number, or query name.

=> s s-adenosylmethionine hydrolase or sam or sam-k
L6 7157 S-ADENOSYLMETHIONINE HYDROLASE OR SAM OR SAM-K

=> s 16 and plant?

L7 585 L6 AND PLANT?

=> s 17 and transgenic

L8 72 L7 AND TRANSGENIC

=> s 18 and fruit

L9 21 L8 AND FRUIT

=> dup rem 19

PROCESSING COMPLETED FOR L9

L10 17 DUP REM L9 (4 DUPLICATES REMOVED)

=> d 1-10 ti

L10 ANSWER 1 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI Melon promoters for expression of transgene in **plants** in a
fruit-specific and ripening-associated manner

L10 ANSWER 2 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

TI Reduced ethylene concentration and postharvest quality of
transgenic netted melon (*Cucumis melo* L.) expressing **S-**
adenosylmethionine hydrolase.

L10 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI A hybrid **plant** promoter derived from the E4 and E8 **fruit**
-specific promoters of tomato

L10 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI **Transgenic fruit plants** with a modified
fruiting phenotype arising altered ethylene biosynthesis and
responsiveness

L10 ANSWER 5 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

TI Use of **S-adenosylmethionine hydrolase** to
down regulate ethylene production in ripening **fruit**.

L10 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI Transformation methods for reduced ethylene formation in
transgenic strawberry and raspberry **plants**

L10 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI Use of tomato E8-derived promoters to express heterologous genes, e.g.
S-adenosylmethionine hydrolase, in ripening
fruit

L10 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI Cloning of raspberry drul gene and use of its promoter for
tissue/stage-specific gene expression in **transgenic**
plants

L10 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI Reduced ethylene synthesis and ripening control in tomatoes expressing
S-adenosylmethionine hydrolase

L10 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2002 ACS

TI Red raspberry and strawberry genetic transformation and **transgenic**
plants with increased **fruit** fungal resistance or viral
resistance

=> d 2 so

L10 ANSWER 2 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

SO Hortscience, (June, 2001) Vol. 36, No. 3, pp. 467. print.

Meeting Info.: 98th Annual International Conference of the American Society for Horticultural Science Sacramento, California, USA July 21-25, 2001
ISSN: 0018-5345.

=> d 2 ab

L10 ANSWER 2 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AB The effect of incorporating a gene encoding the enzyme **S-adenosylmethionine hydrolase** (SAMase), originally isolated from bacteriophage T3, into the genome of netted melon (*Cucumis melo* L. var. *reticulatus* Naud.), commonly known as cantaloupe or musk-melon, was evaluated in a series of greenhouse trials conducted from 1997 to 2000 at the ARS research facility in Weslaco, TX. **Transgenic** and non-**transgenic** seed for greenhouse trial entries was provided to the ARS research laboratory in Weslaco TX by Harris Moran Seed Company, in collaboration with Agritope, Inc. The ethylene concentration inside the cavity of melon **fruit** grown from F1 seed was monitored from 28 days after pollination until 3 or 10 d after harvest using an "on the vine" non-destructive gas sampling method. Real-time ethylene concentration and ripening attributes of melons were evaluated in **fruit** grown from multiple **plants** of eight **transgenic** events, as well as seven other single or double event hybrid crosses and their non-**transgenic** counterparts. Melons grown from **transgenic** plants all possessed a phenotype characteristic of non-**transgenic** netted melon. The onset and pattern of ethylene concentration in melons grown from **transgenic** events was similar to non-**transgenic** melons. **Transgenic** events with desirable market quality were identified that expressed a 30% to 50% reduction in maximum ethylene concentration, firmer texture and extended shelf-life compared to their non-**transgenic** counterparts. Maximum ethylene concentration in melons grown from double event hybrids was similar to that of melons grown from single event and single event hybrids.

=> d 2 au

L10 ANSWER 2 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AU Shellie, Krista C. (1)

=> d 3 ab

L10 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2002 ACS
AB A strong, **fruit**-specific promoter derived from elements of the promoters of E4 and E8 genes of tomato is described. This promoter is capable of providing high-level expression of heterologous genes, particularly in transformed **fruit**. Two hybrid promoters were constructed, called the long and short forms. The long form contains 1155 nucleotides of the E8 promoter (corresponding to nucleotides -2257 to -1103 of the E8 gene) and 1166 nucleotides (corresponding to nucleotides -1150 to +16) of the E4 gene. The short form contains 682 nucleotides of the E8 promoter (corresponding to nucleotides -1529 to -847 of the E8 gene) and 331 nucleotides (corresponding to nucleotides -315 to +16) of the E4 gene. These constructs contg. the gene for a foreign **S-adenosyl methioninase** gene were effective in conferring a delayed ripening phenotype on transformed muskmelon.

=> d 3 ab

L10 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2002 ACS

AB A strong, fruit-specific promoter derived from elements of the promoters of E4 and E8 genes of tomato is described. This promoter is capable of providing high-level expression of heterologous genes, particularly in transformed fruit. Two hybrid promoters were constructed, called the long and short forms. The long form contains 1155 nucleotides of the E8 promoter (corresponding to nucleotides -2257 to -1103 of the E8 gene) and 1166 nucleotides (corresponding to nucleotides -1150 to +16) of the E4 gene. The short form contains 682 nucleotides of the E8 promoter (corresponding to nucleotides -1529 to -847 of the E8 gene) and 331 nucleotides (corresponding to nucleotides -315 to +16) of the E4 gene. These constructs contg. the gene for a foreign S-adenosyl methioninase gene were effective in conferring a delayed ripening phenotype on transformed muskmelon.

=> d 3 so

L10 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2002 ACS
SO PCT Int. Appl., 53 pp.
CODEN: PIXXD2

=> d 3 pi

	L10	ANSWER 3 OF 17	CAPLUS	COPYRIGHT 2002 ACS		
		PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9914316		A2	19990325	WO 1998-US19571	19980918
	WO 9914316		A3	19990610		
		W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
		RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	CA 2304257		AA	19990325	CA 1998-2304257	19980918
	AU 9910611		A1	19990405	AU 1999-10611	19980918
	AU 737124		B2	20010809		
	EP 1012318		A2	20000628	EP 1998-953173	19980918
		R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	US 6118049		A	20000912	US 1998-157077	19980918
	JP 2001516576		T2	20011002	JP 2000-511856	19980918

=> d 4 ab

L10 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2002 ACS
AB A method of delaying or preventing fruit ripening by limiting ethylene biosynthesis is described. The method involves expressing a gene that inhibits ethylene biosynthesis from an ethylene-responsive promoter. This inhibition may be by degrading an intermediate in ethylene biosynthesis, such as the bacteriophage T3 S-adenosylmethionine hydrolase gene, or by use of an antisense DNA or by cosuppression of a gene for ethylene biosynthesis. The S-adenosylmethionine hydrolase gene of bacteriophage T3 was modified by introduction of a Kozak sequence and placed under control of the tomato E8 promoter and introduced into tomato by Agrobacterium-mediated transformation. Two constructs using different derivs. of the E8 promoter were used and these gave different patterns of expression of the hydrolase gene. Transgenic plants showed lower levels of ethylene output than control plants.

Fruit from these plants continued to ripen after picking at the breaker stage, but at a slower rate than control plants and did not show appreciable senescence at 55 days post-breaker.

=> d 4 so

L10 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2002 ACS
SO U.S., 72 pp., Cont.-in-part of U.S. Ser. No. 261,677.
CODEN: USXXAM

=> d 4 pi

L10 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2002 ACS

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5859330	A	19990112	US 1994-331355	19941027
EP 869183	A1	19981007	EP 1998-100641	19901212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 11243799	A2	19990914	JP 1998-303075	19901212
US 5723746	A	19980303	US 1993-46583	19930409
US 5416250	A	19950516	US 1994-255833	19940608
US 5750864	A	19980512	US 1994-261677	19940617
US 5589623	A	19961231	US 1994-360974	19941220
US 6054635	A	20000425	US 1996-777147	19961227

=> d 4 in

L10 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2002 ACS
IN Bestwick, Richard Keith; Ferro, Adolph J.

=> d 5 ab

L10 ANSWER 5 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

=> d 5 so

L10 ANSWER 5 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
SO In Vitro Cellular & Developmental Biology Animal, (March, 1999) Vol. 35,
No. 3 PART 2, pp. 19.A.
Meeting Info.: Congress on In Vitro Biology New Orleans, Louisiana, USA
June 5-9, 1999
ISSN: 1071-2690.

=> d 6 ab

L10 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2002 ACS
AB An efficient transformation system for plants has been developed that yields high transformation efficiencies and pure transgenic plants. Genomic integration of transgenes was confirmed by genomic DNA hybridization anal. Agrobacterium-type expression vectors are used. Pure transgenic plants have been successfully established in soil. The method is exemplified by construction of transgenic raspberry and strawberry plants. Desirable modifications include increased sugar content, increased fungal resistance, increased viral resistance, and reduced ethylene biosynthesis. Reduced ethylene formation results in increased fruit firmness and reduced susceptibility to fruit rot. Target enzymes involved in reduced ethylene include S-

adenosylmethionine hydrolase, aminocyclopropane-1-carboxylic acid (ACC) deaminase, ACC oxidase antisense mol., ACC oxidase cosuppression mol. and ACC synthase cosuppression mol. Genetic selection is accomplished by inclusion of marker genes such as NPTII and hpt.

=> d 7 ab

L10 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2002 ACS

AB The use of **S-adenosylmethionine hydrolase**

(I) to reduce ethylene biosynthesis in **plants** is facilitated by exploitation of the tissue- and stage-specific properties of the gene E8 promoter from tomato. The functional properties of several regions of the E8 promoter are described. Thus, primers were prep'd. for use in PCR to amplify the 1124-bp promoter from tomato gene E8 DNA. The primers were designed with unique restriction sites at each end and were used to place the promoter in the proper orientation 5' of the phage T3 I gene in pUC19. The 3' end of the promoter fragment had a NcoI site placed such that the ATG start codon of the E8 gene product was used as the ATG in the NcoI site, thereby allowing precise placement of the entire E8 promoter directly in front of the I amino acid coding sequences with no intervening sequences. Two I-expressing vectors were constructed. The pGA-ESKN vector contains a portion of the E8 promoter adjacent to the I coding sequences. A .lambda.EMBL-3 clone contg. genomic sequences that hybridize to the -1124 E8 region was isolated and used as the source for a region upstream of the -1124 E8 promoter. Restriction mapping anal. and subcloning allowed identification of an .apprx.1200-bp HindIII to XbaI fragment as the region immediately upstream of the original -1124-bp E8 promoter. This region was added to the pGA-ESKN construct to yield pGA-SESKN, which contained the approx. -2254-bp E8 promoter fused to the I gene. Both of these vectors were transferred to tomato **plants** to generate **transgenic plants** expressing I.

Expression of I in ESKN **transgenic plants** was regulated to the post-mature green **fruit** but turned off in the fully ripe **fruit**, whereas the SESKN **transgenic fruit** maintained I mRNA expression in ripe **fruit**. In these **plants**, there was a significant redn. in the synthesis of ethylene, thereby leading to decreased senescence and improved shelf-life. The E8 promoter and variants provide useful regulatable promoters for the expression of other genes as well as the I gene.

=> d 7 pi

L10 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2002 ACS

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	US 5723746	A	19980303	US 1993-46583	19930409
	EP 869183	A1	19981007	EP 1998-100641	19901212
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 11243799	A2	19990914	JP 1998-303075	19901212
	WO 9424294	A1	19941027	WO 1994-US3886	19940408
	W: AU, CA, CN, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU	9465309	A1	19941108	AU 1994-65309	19940408
AU	690547	B2	19980430		
EP	693127	A1	19960124	EP 1994-912972	19940408
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN	1121356	A	19960424	CN 1994-191731	19940408
JP	08509122	T2	19961001	JP 1994-523335	19940408
US	5859330	A	19990112	US 1994-331355	19941027

=> d 9 ab

L10 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2002 ACS
AB Genetic engineering was used to control ethylene prodn. in cherry tomatoes. An ethylene-responsive promoter was linked to the phage T3 gene **sam-k**, encoding **S-adenosylmethionine hydrolase**, in vector pAG5420. Losses from overripe fruit in **transgenic plants** are reduced because **S-adenosylmethionine**, a precursor of ethylene, is depleted.

=> d 11-17 ti

L10 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2002 ACS
TI Regulated expression of heterologous genes in **plants** and **transgenic fruit** with a modified ripening phenotype

L10 ANSWER 12 OF 17 AGRICOLA DUPLICATE 1
TI Efficient genetic transformation of red raspberry, *Rubus idaeus* L.

L10 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2002 ACS
TI Use of tomato E8-derived promoters to express heterologous genes, e.g. **S-adenosylmethionine hydrolase**, in ripening **fruit**

L10 ANSWER 14 OF 17 AGRICOLA DUPLICATE 2
TI Reduced ethylene synthesis by **transgenic** tomatoes expressing **S-adenosylmethionine hydrolase**.

L10 ANSWER 15 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Decreased ethylene synthesis and altered **fruit** ripening in **transgenic** tomatoes expressing **S-adenosylmethionine hydrolase**.

L10 ANSWER 16 OF 17 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
TI Reduced ethylene synthesis and suspended **fruit** ripening in **transgenic** tomatoes expressing **S-adenosylmethionine hydrolase**.

L10 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2002 ACS
TI Control of **fruit** ripening and senescence in **plants** by expression of aminocyclopropanecarboxylic acid-metabolizing enzyme gene

=> s 110 and mel7
L11 1 L10 AND MEL7

=> d ti

L11 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
TI Melon promoters for expression of transgene in **plants** in a **fruit-specific** and **ripening-associated** manner

=> s 19 and mel7
L12 1 L9 AND MEL7

=> d ti

L12 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
TI Melon promoters for expression of transgene in **plants** in a **fruit-specific** and **ripening-associated** manner

=> s mel7 and ethylene

L13 8 MEL7 AND ETHYLENE

=> dup rem l13

PROCESSING COMPLETED FOR L13

L14 4 DUP REM L13 (4 DUPLICATES REMOVED)

=> d 1-4 ti

L14 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2002 ACS

TI Melon promoters for expression of transgene in plants in a fruit-specific and ripening-associated manner

L14 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS

TI Characterization of two cDNA clones for mRNAs expressed during ripening of melon fruits and their use for plant breeding

L14 ANSWER 3 OF 4 AGRICOLA

DUPLICATE 1

TI Analysis of physiological and molecular changes in melon (*Cucumis melo* L.) varieties with different rates of ripening.

L14 ANSWER 4 OF 4 AGRICOLA

DUPLICATE 2

TI Characterization of two cDNA clones for mRNAs expressed during ripening of melon (*Cucumis melo* L.) fruits.